

AMENDMENT TO THE CLAIMS

The following claims listing replaces all previous claims listings:

1-40. (Canceled)

41. (Currently Amended) A composition for treating a bacterial biofilm wherein the biofilm is a lung biofilm of a ~~cystic-fibrosis~~ patient, said composition comprising a first bacteriophage that is capable of infecting a bacterium within said biofilm, a first polysaccharide lyase enzyme that is capable of degrading a polysaccharide within said biofilm, and a pharmaceutically-acceptable antimicrobial agent.

42. (Currently Amended) A composition according to Claim 41, wherein the pharmaceutically acceptable antimicrobial agent is an antibiotic ~~or a defensin~~.

43. (Withdrawn) A composition according to Claim 41, further comprising a DNase.

44. (Withdrawn) A composition according to Claim 41, further comprising a second polysaccharide lyase, wherein the first and second polysaccharide lyase are different.

45. (Original) A composition according to Claim 41, wherein the first polysaccharide lyase is encoded by the bacteriophage.

46. (Original) A composition according to Claim 41, wherein the bacteriophage encodes one or more of a pharmaceutically-acceptable antimicrobial agent, a DNase, or a second polysaccharide lyase that is different from the first polysaccharide lyase.

47. (Withdrawn) A composition according to Claim 41, comprising a second bacteriophage, which is different from the first bacteriophage, and wherein the second bacteriophage optionally encodes a second polysaccharide lyase.

48. (Withdrawn) A composition according to Claim 41, comprising a second pharmaceutically-acceptable antimicrobial agent.

49. (Currently amended) A composition according to Claim 41, wherein the biofilm includes a Pseudomonas sp., and wherein the first bacteriophage is capable of infecting said Pseudomonas sp. comprises an opportunistic bacterium.

50. (Currently amended) A composition according to Claim 41, ~~first bacteriophage is a GH-phage~~ wherein the bacteriophage is selected from the group consisting of GH4 (ECACC Accession No. 02121203), GH6 (ECACC Accession No. 02121202), GH13 (ECACC Accession No. 02121201), GH14 (ECACC Accession No. 02121204); and a bacteriophage having accession No. ATCC 12055-B1, ATCC 12055-B2, ATCC 12055-B3, ATCC 14205-B1, ATCC 14206-B1, ATCC 14207-B1, ATCC 14209-B1, ATCC 14210-B1, ATCC 14211-B1, ATCC 14212-B1, ATCC 14213-B1, ATCC 14214-81, ATCC 15692-B2, ATCC 15692-B3, ATCC 25102-B1, ATCC BAA-26-B1, ATCC BAA-27-B1, ATCC BAA-28- B1, ATCC BAA-28-B2, ATCC BAA-29-B1, ATCC BAA-30-B1, ATCC BAA-31-B1, ATCC BAA-47-B1, ATCC BAA-79-B1, ATCC BAA-81-B1, and ATCC BAA-81-B2.

51. (Currently amended) A composition according to Claim 50, wherein the first bacteriophage ~~is a GH bacteriophage encoding a~~ encodes said first polysaccharide lyase.

52. (Canceled)

53. (Withdrawn – Currently Amended) A composition according to Claim 41, further comprising a second bacteriophage ~~that is a GH-phage selected from the group consisting of GH4 (ECACC Accession No. 02121203), GH6 (ECACC Accession No. 02121202), GH13 (ECACC Accession No. 02121201), and GH14 (ECACC Accession No. 02121204), wherein the first bacteriophage and second bacteriophage are different.~~

54. (Original) A composition according to Claim 41, wherein the first bacteriophage comprises a heterologous gene encoding a first polysaccharide lyase enzyme.

55. (Currently amended) A composition according to Claim 41 ~~44~~, wherein the first and/or second polysaccharide lyase is an alginate lyase.

56. (Original) A composition according to Claim 41 in the form of an aerosol formulation, comprising one or more of an excipient, surfactant, and/or propellant.

57. (Canceled).

58. (Withdrawn – Currently Amended) A method of treating a biofilm infection, wherein the biofilm is a ~~lung biofilm in a cystic fibrosis of a~~ patient, comprising administering to the ~~a~~ patient:

a first bacteriophage capable of infecting a bacterium within said biofilm;

a first polysaccharide lyase enzyme capable of degrading a polysaccharide within said biofilm; and

a pharmaceutically-acceptable antimicrobial agent.

59. (Withdrawn – Currently Amended) A method according to Claim 58, wherein the pharmaceutically-acceptable antimicrobial agent is an antibiotic ~~or a defensin~~.

60. (Withdrawn – Currently Amended) A method according to Claim 58, further comprising administering DNase.

61. (Withdrawn – Currently Amended) A method according to Claim 58, further comprising administering a second polysaccharide lyase, wherein the first and second polysaccharide lyase are different.

62. (Canceled)

63. (Withdrawn) A method according to Claim 58, wherein the bacteriophage encodes one or more of a pharmaceutically-acceptable antimicrobial agent, a DNase, or a second polysaccharide lyase that is different from the first polysaccharide lyase.

64. (Withdrawn – Currently Amended) A method according to Claim 58, comprising administering a second bacteriophage, which is different from the first

bacteriophage, and wherein the second bacteriophage optionally encodes a second polysaccharide lyase.

65. (Withdrawn – Currently Amended) A method according to Claim 58, comprising administering a second pharmaceutically-acceptable antimicrobial agent.

66. (Withdrawn – Currently Amended) A method according to Claim 58, wherein the biofilm ~~comprises an opportunistic bacterium~~ includes a *Pseudomonas* sp., and wherein the first bacteriophage is capable of infecting said *Pseudomonas* sp.

67. (Withdrawn – Currently Amended) A method according to Claim 58, wherein the ~~first bacteriophage is a GH-phage~~ bacteriophage is selected from the group consisting of GH4 (ECACC Accession No. 02121203), GH6 (ECACC Accession No. 02121202), GH13 (ECACC Accession No. 02121201), GH14 (ECACC Accession No. 02121204); and a bacteriophage having accession No. ATCC 12055-B1, ATCC 12055-B2, ATCC 12055-B3, ATCC 14205-B1, ATCC 14206-B1, ATCC 14207-B1, ATCC 14209-B1, ATCC 14210-B1, ATCC 14211-B1, ATCC 14212-B1, ATCC 14213-B1, ATCC 14214-B1, ATCC 15692-B2, ATCC 15692-B3, ATCC 25102-B1, ATCC BAA-26-B1, ATCC BAA-27-B1, ATCC BAA-28-B1, ATCC BAA-28-B2, ATCC BAA-29-B1, ATCC BAA-30-B1, ATCC BAA-31-B1, ATCC BAA-47-B1, ATCC BAA-79-B1, ATCC BAA-81-B1, and ATCC BAA-81-B2.

68. (Withdrawn – Currently Amended) A method according to Claim 58, wherein the first bacteriophage is a GH bacteriophage ~~encoding a~~ and encodes said first polysaccharide lyase.

69. (Canceled)

70. (Withdrawn – Currently Amended) A method according to Claim 58, further comprising administering a second bacteriophage ~~that is a GH-phage, selected from the group of~~ GH4 (ECACC Accession No. 02121203), GH6 (ECACC Accession No. 02121202), GH13 (ECACC Accession No. 02121201), and GH14 (ECACC Accession No. 02121204), wherein the first bacteriophage and second bacteriophage are different.

71. (Withdrawn) A method according to Claim 58, wherein the first bacteriophage comprises a heterologous gene encoding a first polysaccharide lyase enzyme.

72. (Withdrawn – Currently Amended) A method according to Claim 58 61, wherein the first and/or second polysaccharide lyase is an alginate lyase.

73. (Withdrawn – Currently Amended) A method according to Claim 58 comprising administering said first bacteriophage, said first polysaccharide lyase and said pharmaceutically-acceptable antimicrobial agent in the form of an aerosol formulation, comprising one or more of an excipient, surfactant, and/or propellant.

74. (Withdrawn) A method according to Claim 58, wherein following administration the bacterial cell count of the biofilm is reduced by at least one log.

75. (Withdrawn) A method according to Claim 58, wherein the composition or bacteriophage is administered in more than one separate dose.

76. (Withdrawn) A method according to Claim 58, wherein the composition or first bacteriophage is administered in at least three separate doses.

77. (Withdrawn – Currently Amended) A method according to Claim 58, wherein the first bacteriophage is administered prior to, ~~simultaneously with~~ or subsequent to the first polysaccharide lyase.

78. (Withdrawn – Currently Amended) A method according to Claim 58, wherein the first bacteriophage is administered prior to, ~~simultaneously with~~ or subsequent to said pharmaceutically- acceptable antimicrobial agent.

79. (Withdrawn – Currently Amended) A method according to Claim 58, wherein the first bacteriophage is administered prior to, ~~simultaneously with~~ or subsequent to a second polysaccharide lyase that is different from the first polysaccharide lyase.

80. (Withdrawn – Currently Amended) A method according to Claim 58, wherein the first bacteriophage is administered prior to, ~~simultaneously with~~ or subsequent to a

second bacteriophage that is capable of infecting a bacterium within the biofilm, wherein said second bacteriophage is different from the first bacteriophage.

81. (Canceled)

82. (Withdrawn – Currently Amended) A method of making a modified bacteriophage capable of degrading a biofilm, wherein the biofilm is a ~~lung~~-biofilm of a ~~cystic fibrosis~~ patient, the method comprising:

a) selecting at least one gene encoding a polysaccharide lyase enzyme that degrades a polysaccharide within said biofilm;

b) selecting a bacteriophage that is capable of infecting a bacterial species or strain residing within the biofilm; and

c) introducing at least one of the genes selected in step a) into the bacteriophage nucleic acid.

83. (Withdrawn) A method according to Claim 82, wherein the bacteriophage is selected from the group consisting of GH4 (ECACC Accession No. 02121203), GH6 (ECACC Accession No. 02121202), GH13 (ECACC Accession No. 02121201), GH14 (ECACC Accession No. 02121204); and a bacteriophage having accession No. ATCC 12055-B1, ATCC 12055-B2, ATCC 12055-B3, ATCC 14205-B1, ATCC 14206-B1, ATCC 14207-B1, ATCC 14209-B1, ATCC 14210-B1, ATCC 14211-B1, ATCC 14212-B1, ATCC 14213-B1, ATCC 14214-B1, ATCC 15692-B2, ATCC 15692-B3, ATCC 25102-B1, ATCC BAA-26-B1, ATCC BAA-27-B1, ATCC BAA-28 B1, ATCC BAA-28-B2, ATCC BAA-29-B1, ATCC BAA-30-B1, ATCC BAA-31-B1, ATCC BAA-47-B1, ATCC BAA-79-B1, ATCC BAA-81-B1, and ATCC BAA-81-B2.

84. (Withdrawn) A method according to Claim 82, wherein the method further comprises the step of testing the efficacy of the modified bacteriophage against the biofilm *in vitro*.

85. (Withdrawn – Currently Amended) A method according to Claim 82, wherein ~~the bacteriophage specifically infects an opportunistic bacterium~~ biofilm includes a

Pseudomonas sp., and wherein the first bacteriophage is capable of infecting said Pseudomonas sp.

86. (Withdrawn) A method according to Claim 82, wherein said at least one gene encodes an alginate lyase.

87. (Withdrawn – Currently Amended) A method of identifying a bacteriophage for use in treatment of a biofilm, wherein the biofilm is a lung biofilm of a cystic fibrosis patient, the method comprising:

a) identifying a bacteriophage that is capable of infecting a bacterial species or strain within said biofilm; and

b) confirming that said bacteriophage encodes a polysaccharide lyase that degrades a polysaccharide within the biofilm.

88. (New) A composition according to Claim 41, wherein the biofilm is a lung biofilm of a cystic fibrosis patient.

89. (New - Withdrawn) A method according to Claim 58, wherein the biofilm includes a Pseudomonas sp., and wherein the first bacteriophage is capable of infecting said Pseudomonas sp.

90. (New - Withdrawn) A method according to Claim 58, wherein the biofilm is a lung biofilm of a cystic fibrosis patient.

91. (New - Withdrawn) A method according to Claim 82, wherein the biofilm is a lung biofilm of a cystic fibrosis patient.

92. (New - Withdrawn) A method according to Claim 87, wherein the biofilm includes a Pseudomonas sp., and wherein the first bacteriophage is capable of infecting said Pseudomonas sp.

93. (New - Withdrawn) A method according to Claim 87, wherein the biofilm is a lung biofilm of a cystic fibrosis patient.

94. (New) A composition according to Claim 41, wherein the patient is an animal.
95. (New) A composition according to Claim 41, wherein the patient is a human.
96. (New - Withdrawn) A method according to Claim 58, wherein the patient is an animal.
97. (New - Withdrawn) A method according to Claim 58, wherein the patient is a human.
98. (New - Withdrawn) A method according to Claim 82, wherein the patient is an animal.
99. (New - Withdrawn) A method according to Claim 82, wherein the patient is a human.
100. (New - Withdrawn) A method according to Claim 87, wherein the patient is an animal.
101. (New - Withdrawn) A method according to Claim 87, wherein the patient is a human.
102. (New - Withdrawn) A method according to Claim 58, wherein following administration the bacterial cell count of the biofilm is reduced by at least three logs.